13.—NEW LEAF-HOPPERS (HOMOPTERA, JASSOIDEA) FROM WESTERN AUSTRALIA.

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Although the leaf-hoppers of Western Australia are not well known, sufficient material has been described from this region to arouse great interest. It is probable that the Eurymelidae, which is the dominant group of Australian leaf-hoppers, originated in Western Australia in Cretaecous times and to-day one sub-family, the Pogonoscopinae, which is myrmecophilous, is almost entirely confined to it. The most interesting genera of the Ipoinae, *Cornutipoides* Ev. and *Bakeriola* Ev. are Western Australian, as is also the most handsome representative of the whole family, *Eurymelops generosa* (Stål).

On this account it has been a privilege to have had an opportunity to examine the large collection of Western Anstralian Jassoids collected by Mr R. E. Turner in 1935 and 1936, and I am grateful to the Trustees of the British Museum and to Mr. W. E. China for having afforded me this opportunity. Eight new genera and fifty-one new species are described, and lists given of species that have previously been recorded from Western Australia or that occur in the present collection. The arrangement into families is based on the system proposed in an earlier publication (Evans, 1939, b).

The sole new species described that was not collected by Mr. Turner is one which is represented by a specimen collected by Charles Darwin at King George's Sound in 1836. All the types will eventually be returned to the British Museum.

EURYMELIDAE.

The following species of Eurymelidae have previously been recorded from Western Australia. Those marked with a * are believed to be confined to the State. Sub-family Eurymelinae : Eurymelops generosa* (Stål), Eurymelops latifascia (Walk.), Eurmeloides walkeri* Dist., Eurymeloides punctata (Sign.), Eurymelita terminalis (Walk.). Sub-family Ipoinae : Ipo torpens* Jac., Ipoella norrisi* Ev., Stenipo swani* Ev., Ipoides casurinae Ev., Anacornutipo lignosa (Walk.), Cornutipoides tricornis* Ev., Bakeriola procurrens* (Jae.). Subfamily Pogonoscopinae : Pogonoscopus lenis* (Jae.), P. myrmex* China, P. clarki* China, P. fuscus* China, Lasioscopus acmaeops* (Jae.), Australoscopus whitei† China. Descriptions and figures of the Eurymelinae listed above are given in Evans, 1933, of the Ipoinae in Evans, 1934 and 1939, c, and of the Pogonoscopinae in China, 1926.

IPOINAE,

Anipo fusca sp. nov.

(Plate I., fig. 14.)

Length 3.5 mm. Head, ventral surface, ante-clypeus, lora and maxillary plates, pale yellowish-brown with a median chestnut-brown longitudinal stripe; vertex anteriorly dark brown, posteriorly pale brown. Crown of even width throughout. Pronotum and Scutellum pale brown. Tegmen colour-

less-hyaline, clavus pale hyaline-brown, veins with brown and white markings. Thorax, ventral surface black. Hind tibia with a few spines in addition to a single spur, thus differing from the genotype, A. porriginosa (Sign.) in this characteristic. Abdomen, ventral surface pale brown. Male Genitalia, acdeagus as in Plate 1., fig. 14. Type $\vec{\sigma}$ from Perth.

Anipo darwini sp. nov.

(Plate I., fig. 15.)

Length 4.5 mm. Head, ventral surface, lora and maxillary plates, pale whitish-brown; ante-clypeus reddish-brown, fronto-clypeus and vertex pale brown mottled with dark brown. Pronotum and Scutellum dark brown mottled with yellow. Tegmen colourless-hyaline with pale brown and whitish markings, clavus pale hyaline-brown with white markings; veins pink. Thorax, ventral surface dark brown, margins of epimera and episterna pale brown. Abdomen, ventral surface pale brown. Male Genitalia, aedeagus as in Plate 1., fig. 15. Type \vec{c} from King George's Sound (C. Darwin, 2/1836).

Anipo flavens sp. nov.

(Plate I., fig. 12.)

Length 5 mm. General coloration apricot, eyes grey. Tegmen hyaline, pale apricot. Male Genitalia, acdeagus as in Plate I., fig. 12. Type σ' from Dedari, 1/36.

Ipoella fulva sp. nov.

(Plate I., fig. 13.)

Length 5 mm. Head, ventral surface pale brownish-yellow with a large dark brown T-shaped marking; eyes reddish-brown. Pronotum grey mottled with dark brown. Scutellum brown. Tegmen pale colourless-hyaline mottled with brown. Thorax, ventral surface dark brown. Abdomen, ventral surface pale brown. Male Genitalia, aedeagus as in Plate 1, fig. 13. Type $\vec{\sigma}$ from Dedari, 11/35.

Ipoides fasciata sp. nov.

(Plate J., fig. 16.)

Length 5 mm. Head, ventral surface, ante-elypeus, lora and maxillary plates whitish, fronto-elypeus pale brownish-white; vertex, including the crown, mottled with black and pale brown and with three longitudinal white stripes. Pronotum grey, mottled with light and dark brown. Scutellum chestnut-brown. Tegmen proximally hyaline-brown, distally colourlesshyaline, veins dark brown. A white fascia extends transversely from the costal border almost as far as the hind margin of the elavus, thence it bends towards the anal margin. Thorax and abdomen, ventral surface pale brown. Male Genitalia, aedeagus as in Plate 1., fig. 16. Type $\vec{\sigma}$ from Spargoville, 1/36.

Ipo speciosa sp. nov.

(Plate I., figs. 10, 11.)

Length 6 mm. Head, ventral surface white with pale brown markings on the ante-clypeus, lora, maxillary plates and fronto-clypeus anteriorly, and black markings on the vertex ; eyes bright red. Pronotum grey, mottled with very dark brown and with a broad median longitudinal white stripe. Scutellum chestnut-brown with pale brown markings, laterally pale brown. Tegmen

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whitish-hyaline with dark brown markings and a broad white faseia extending from the cestal to the claval border. *Thorax*, ventral surface with white and brown markings. Legs, tibiae very dark brown with white and dark brown markings. *Abdomen*, ventral surface pale brown. *Male Genitalia*, sub-genital plate, paramere and acdeagus as in Plate I., figs. 10 and 11. *Type* \vec{c} from Dedari, 1/36.

Stenipo grisea sp. nov.

(Plate I., fig. 17.)

Length 4 mm. Head, ventral surface grey anteriorly; fronto-clypeus and vertex anteriorly, pinkish; eyes black. Crown grey with brewn markings. Pronotum pale greyish-brown. Scutellum pale reddish-brown. Tegmen hyalinegrey, veins pink. Thorax, ventral surface black, laterally pale brown. Abdomen, ventral surface and legs pale brown. Male Genitalia, aedeagus curved, narrowly cylindrical, paramere and sub-genital plate as in Plate I., fig. 17. Type \vec{c} from Dengarra, 10/35.

BYTHOSCOPIDAE.

The following species belonging to this family have been recorded from Western Australia: Eurinoscopus viridis Ev., Chinaella cudmorei* Ev., Hecalus basedowi* Ev. and H. elongatus* Ev. The two former are described and illustrated in Evans, 1936, the two latter in Evans, 1939, a. Of the three new species described below one belongs to a genus closely related to Bythoscopus Germ., whilst two not only are not bythoscopoid in appearance but have dorsal ocelli and ledrid-like heads. They are placed in the Bythoscopidae because of their close affinity with Thaumatoscopus Kirk. The reason for placing the last named genus in this family has been discussed previously (Evans, 1939, b).

BYTHOSCOPINAE.

Eurinoscopus transulcidus sp. nov.

(Plate I., fig. 28.)

Length 4 mm. Head yellow, eyes black, frontal and epicranial sutures indistinct. Crown yellow, slightly wider in the centre than against the eyes. Pronotum and Scutellum concolorous with the crown. Tegmen opaque, pale green with ill-defined yellow and brown areas; veins green, apex of tegmen pale hyaline-brown. Thorax and Abdomen, ventral surface and legs yellow. Type \Im from Dedari, 1/36.

PENTHIMIINAE, THAUMATOSCOPINI.

PLATYSCOPUS gen. nov.

The head is produced and spatulate, the ventral surface coneave, the dorsal convex. The antennae are short and posterior to the eyes. There is a median longitudinal carina on the crown, and the ocelli which are on the crown lie midway between the carina and the sides of the head. The pronotum is parallel-sided and collar-like and the tegmina everlap apically and have wide appendices. The hind tibiae have four rows of spines ; a row of alternate long and short spines, a row of short strong spines separated by minute spines, a row of short spines and a row of hair-like spines. *Note.*—It is possible that in spite of the differences in coloration and the shape of the head that exists between the two insects described below, they are not distinct species but the two sexes of a single species.

Platyscopus badius sp. nov. (Genotype).

(Plate I., figs. 24, 25.)

Length 7 mm. Head ehestnut-brown, eyes red. Pronotum chestnut-brown partially suffused with dark brown. Scutellum ehestnut-brown. Tegmen pale hyaline-brown, apically smoky-grey, veins pale brown. Thorax and Abdomen, ventral surface and legs, brown. Last abdominal segment narrowly produced medially, emarginate laterally. Ovipositor sheath spinose. Type \Im from Dedari, 1/36.

Platyscopus coloratus sp. nov.

(Plate I., figs. 26, 27.)

Length 5.5 nm. Head, ventral surface dark brown. Crown chestnutbrown with a medium black stripe extending from the base to within onethird of the apex and two small brown markings elose to the eyes on each side; eyes red. Pronotum chestnut-brown. Scutellum black. Tegmen hyalinebrown, the costal border eolourless; apex and veins dark brown. Thorax and Abdomen, ventral surface black. Type \mathcal{F} from Dedari, 1/36.

EUSCELIDAE.

Eutettix norrisi* Ev. and Thamnotettix argentata Ev. are the only previously described representatives of this family recorded from Western Australia. Both are described and figured in Evans, 1939, a. In an earlier paper (Evans, 1937, a) the genera Paradorydium Kirk. and Deltodorydium Kirk. were placed in the Euscelidae, in the tribe Paradorydiini of the sub-family Eupelicinae. Later (Evans, 1939, b) the Eupelicinae were transferred to the Ledridae. Further study has led to the conclusion that the Paradorydiini were misplaced and that they are a Euscelid tribe. Deltodorydium viridis Ev. is the only known Western Australian representative of this tribe.

OCCIPLANOCEPHALUS gen. nov.

The head is considerably wider than long, ventrally it is almost flat, the antennal pits are shallow and the eyes large. The frontal sutures are almost parallel to each other and to the internal margins of the eyes. They appear to extend posteriorly beyond the ocelli and the apices are directed towards the eyes on each side. The crown is wide and consists almost entirely of the vertex, the coronal suture is short and the ocelli though marginal are visible from above. The pronotum narrows laterally. The tegmina are short and do not nearly reach to the apex of the abdomen ; their appendices continue round their apices to the costal margins. The hind tibiac have a strong armature of spines. Each spine of the row of strongest spines is mounted on an enlarged base and separated from its neighbour by three or four minute spines. The male genitalia have wide flat sub-genital plates that narrow apically and narrowly produced pygophores.

Occiplanocephalus ravus sp. nov. (Genotype).

(Plate 11., fig. 18.)

Length 6.8 mm. Head, ventral surface pale greyish-brown with transverse brown muscle impressions on the fronto-clypens, eyes dark brown, crown grey. Pronotum grey mottled with brown. Scattellum grey with brown and black markings. Tegmen whitish-hyaline, veins brown; venation partially reticulate. Thorax, ventral surface grey with brown markings. Hind tibia pale brown, the bases of the spines dark brown. Abdomen, ventral surface pale brown. Type $\vec{\sigma}$ from Dedari, 1/36.

EUSCELOSCOPUS gen. nov.

The head is as wide as long and slightly convex. The antennal pits are deep and the antennal ridges distinct. The eyes are small and the ocelli which are large are on the erown, close to but not touching the eyes. The crown may be of even width throughout or medially produced and the head including the eyes is the same width as the pronotum at the base. The pronotum laterally separates the head from the bases of the tegmina. The hind tibiae have three rows of long strong spines. The internal row decrease in size from the apex to the base and the bases of the two external rows are arranged in pairs adjacent to each other, the spines of one of these row are slightly larger than those of the other and are separated from each other by short spines. *Eusceloscopus* is close to *Cicadula* Zett.

Eusceloscopus yanchepensis sp. nov. (Genotype).

(Plate 11., figs. 15-17.)

Length 4 mm. Head reddish-brown, eyes black, ocelli red. Crown of even width throughout. Pronotum and Scutellum reddish-brown. Tegmen hyalinebrown but for the two cells adjoining the appendix which are smoky-hyaline; veins pink. Thorax and Abdomen, ventral surface and legs, yellowish-brown. Type $\vec{\sigma}$ from Yanchep, 11/35.

Eusceloscopus pallidus sp. nov.

(Plate II., fig. 19.)

Length $4 \cdot 2 \text{ mm}$. Head buff-coloured, eyes and ocelli black. Crown apically acute, much wider medially than laterally, buff. Pronotum and Scutellum concolorous with the head. Tegmen, including the veins, pale hyaline-brown. Thorax and Abdomen, ventral surface yellow. Type \mathcal{F} from Yanchep, 12/35.

Deltocephalus dedarensis sp. nov.

(Plate H., figs. 21, 22.)

Length 3.6 num. Head, ventral, surface orange-yellow, fronto-elypens darker in colour than the rest of the head. Eyes and antennae dark brown. Crown orange-buff, wider in the centre than against the eyes, rounded apically; coronal suture absent. Pronotum and Scutellum concolorous with the crown. Tegmen, pale hyaline-brown. Thorax and Abdomen, ventral surface and legs, pale orange yellow. Type \vec{C} from Dedari, 1–36.

Deltocephalus decoloratus sp. nov.

(Plate II., fig. 20.)

Length 3.8 mm. Head, ventral surface pale buff with faint brown transverse muscle impressions on the fronto-clypeus. Crown wider in the centre than against the eyes rounded apically, pale buff with a pattern of narrow brown markings; eyes pale brown. Pronotum and Scutellum, yellowish-white with a few transverse narrow brown markings. Tegmen whitish-hyaline partially suffused with brown; veins white. Thorax and Abdomen, ventral surface whitish-yellow. Type $\vec{\beta}^{i}$ from Dedari, 1/36.

Deltocephalus pullatus sp. nov.

(Plate II., fig. 23.)

Length 4 mm. Head, ventral surface pale brown with a pattern of regular bold black markings; eyes black, ocelli red. Crown wider in the centre than against the eyes, pale brown with transverse and curved black stripes; coronal suture distinct, terminating in front of the eyes. Pronotum yellowish-brown anteriorly, grey posteriorly with a regular pattern of brown markings. Scattellum pale brownish-yellow with black markings; muscle impressions apricot. Tegmen whitish-hyaline, the borders of each cell suffused with brown. Thorax, ventral surface black, the edges of certain sclerites edged with yellow. Hind tibia pale brown, spines brown. Abdomen proximally black, distally yellow. Type φ from Yanchep, 12/35.

EUPTERYGIDAE.

It is almost certain that this family is well represented in Western Australia, although not previously recorded from there. The species described below is placed in the genus Aneono Kirk. on account of its resemblance to the genotype A. pulcherrima Kirk. The venation of the two species is similar though not identical. Myers (1928) stated that Aneono was "apparently not a Typhlocybine genus." Nevertheless it would appear to have eloser relationships with the Eupterygidae than with other jassoid families. A nymph of an un-described species belonging to the same genus is illustrated in Pl. 3, fig. 20: It is extremely flattened and has a series of projecting flaps on the head, legs and abdomen. The nymph was taken at Hobart, Tasmania.

Aneono venusta sp. nov.

(Plate III,, figs. 18, 19.)

Length 4 mm. Head pinkish, partially suffused with white Pronotum, antero-laterally white, medially grey. Scutellum very dark brown, apically brownish-yellow. Tegmen, apical third pale brownish-hyaline; proximal two-thirds brown, but for the costal area distally which is pink, and for irregular white areas. Thorax, ventral surface dark brown. Abdomen, ventral surface pale brown. Type \Im from Dedari, 1/36.

IDIOCERIDAE.

Only two species belonging to this family have been described previously from Western Australia. They are *Idiocerus divisus** Ev. and *I. lesmurdensis** Ev. Both are described in Evans, 1936.

TUMOCERUS gen. nov.

The maxillary plates are narrow, and the lora and ante-clypeus are flat and depressed below the swollen fronto-clypeus; the eyes are large. The crown is wide and more or less at right-angles to the face though forming part of one curved surface with it. The sutures that limit the fronto-clypeus posteriorly may be distinct or indistinct. The pronotum narrows laterally and the bases of the tegmina lie close behind the eyes. The tegmina have wide appendices and the cross-vein that represents $M_{1,\pm,2}$ is considerably longer than is usual. The hind tibiae are short and have two strong spines set on enlarged bases in addition to several weak spines. The sub-genital plates in the male are wide apieally, the parameres are short and the pygophores are not produced.

Tumocerus varius sp. nov. (Genotype).

(Plate III, figs 4-7.)

Length 4 mm. Head, ventral surface yellow, eyes dark brown, ocelli red, hind margin of the fronto-elypeus brown. Crown wider in the centre than against the eyes, yellow suffused with brown medially and with two round black markings. Pronotum brownish-grey. Scattellum yellow, with two triangular brown markings close to the centre ; muscle inpressions black. Tegmen hyaline, partially suffused with brown ; veins dark brown. Thorax and Abdomen, ventral surface yellow, legs brown. Type $\vec{\prec}$ from Dedari, 1/36. Note.—A variety occurs in which extensive black markings occur on the head, and the thorax may be largely brown.

Tumocerus merredinensis sp. nov.

(Plate III., figs. 2, 3.)

Length 4 mm. Head pale buff, eyes dark brown. Crown of even width throughout with two brown spots. Pronotum and Scutellum concolorous with the head. Tegmen pale hyaline-brown, veins pale brown. Thorax and Abdomen, ventral surface apricot yellow. Type \Im from Merredin 12/35.

Tumocerus grandis sp. nov.

(Plate III., fig. I.)

Length 5.5 mm. Head pale buff, eyes dark brown. Head wider in the centre than against the eyes with two round black markings. Pronotum concolorous with the erown. Scutellum with two small brown spots lying on each side of the centre, muscle impressions dark brown. Tegmen, pale hyaline-brown, veins brown. Thorax and Abdomen, ventral surface pale buff. Type \Im from Dedari, 1/36.

Tumocerus glaueus sp. nov.

(Plate III., fig. 15.)

Length 5 mm. Head, ventral surface pale yellowish green. Crown of even width throughout, narrowly pale yellowish-green against the eyes, medially pink, with two marginal large black spots; eyes red. Pronotum, anterolaterally pale yellowish-green, medially pink. Soutellum, apricot. Tegmen, proximally, membrane and veins pale yellowish-green, distally hyaline-brown, veins dark brown. Thorax and Abdomen, ventral surface and legs, pale yellowish-green. Type $\vec{\sigma}$ from Dedari, 1/36.

GNATIA gen. nov.

The ante-clypcus is angularly swollen, the hind margin of the frontoclypcus is distinct and the ocelli lie well away from the apices of the frontal sutures. The crown is of even width throughout and the tegmina are long and narrow and have wide appendices. The hind tibiae are short and have two spines mounted on enlarged bases in addition to several weak spines.

Gnatia angustata sp nov. (Genotype)

(Plate 111., figs. 13, 14.)

Length 5 mm. Head, ventral surface, ante-clypeus pale brown, lora, maxillary plates and the vertex anteriorly whitish. Fronto-clypeus ehestnutbrown mottled with dark brown. Crown medially dark grey, laterally pinkish; eyes dark brown. Pronotum antero-laterally pinkish-yellow, otherwise grey. Scutellum pinkish-brown, muscle impressions brown. Tegmen hyaline-grey with a dark brown fascia; veins pale brown bordered with a double row of fine hairs. Thorax, ventral surface black. Abdomen, ventral surface yellow. Type \Im from Dedari, 1/36.

Idiocerus luteus sp. nov.

Length 4 mm. Head slightly convex, yellow; eyes black. Pronotum concolorous with the head. Scutellum apricot. Tegmen, proximally bronze-hyaline-yellow, distally hyaline-brown; veins yellow. Thorax and Abdomen, ventral surface yellow. Hind tibia pale green with two rows of dark brown spines. Type \Im from Dedari, 1/36.

Idiocerus coloratus sp. nov.

Length 4 mm. Head whitish, convex, eyes dark red; ocelli yellow. Muscle impressions on fronto-clypeus pale apricot. Crown wide, of even width throughout. Pronotum grey. Scutellum, bright orange-red. Tegmen proximally, and veins, whitish-hyaline; distally and veins smoky-grey. Thorax and Abdomen, ventral surface, buff. Type \Im from Dedari, 1/36.

Idiocerus fucatus sp. nov.

(Plate III., figs. 9, 10.)

Length 3.5 mm. Head, ventral surface apricot, eyes red. Crown narrow, of even width throughout, the width of each eye equal to half the breadth of the crown. Pronotum and Scutellum apricot. Tegmen including the veins, golden-hyaline. Thorax and Abdomen, ventral surface and legs, pale yellow. Type \Im from Dedari, 1/36.

Idiocerus rubens sp. nov.

(Plate III., fig. 12.)

Length 3.2 nm. Head bright red sparsely mottled with pale brownishyellow; eyes black. Crown slightly wider in the centre than against the eyes. Pronotum and Scutellum concolorous with the head. Tegmen proximally hyaline-red with irregular whitish markings, distally hyaline-colourless; veins pink. Coastal area, proximally white. Thorax and Abdomen, ventral surface and legs, pinkish-yellow. Type \Im from Southern Cross, 1/36.

Idiocerus viridiceps sp. nov.

(Plate III., fig. 11.)

Length 2.8 mm. Head greenish-yellow, eyes brown. Pronotum and Seutellum concolorous with the head. Tegmen hyaline-green the veins indistinetly bordered by fine hairs. Thorax and Abdomen, ventral surface, pale greenish-yellow. Type \Im from Dongarra, 11/35.

Idiocerus candidus sp. nov.

(Plate III., fig. 8.)

Length 2.2 mm. Head, ante-elypeus, maxillary plates and lora white; fronto-elypeus white with dark brown markings; vertex pale brown mottled with brown; eyes brown. Pronotum grey mottled with brown. Scutellum yellowish-white, musele impressions brown. Tegmen, elaval and costal areas white, the rest of the tegmen hyaline-grey irregularly suffused with brown. Thorax ventral surface brown. Abdomen, ventral surface and legs, yellow. Type \Im from Dongarra, 9/35.

AUSTROAGALLOIDIDAE.

Only a single species, Austroagalloides flavus* Ev. has been described previously from Western Australia. (Evans, 1939, e)

Austroagalloides maculata sp. nov.

(Plate III., fig. 17.)

Length 5 mm. Head orange-yellow, eyes red. Crown slightly wider against the eyes than in the centre. Pronotum deep orango yellow flecked with small raised transverse black markings. Scutellum orange, with a few small raised black spots. Tegmen palo hyaline-orange-yellow with numerous raised dark brown spots lying especially along the veins; apically black. Thorax and Abdomen, ventral surface orange yellow. Type \vec{d} from Dedari, 1/36.

THYMBRIDAE.

Three species of Thymbridae have been recorded from Western Australia. They are Euprora mullensis^{*} Ev., Ledraprora compressa^{*} Ev., and Rhotidoides montana Ev. E. mullensis was described in Evans, 1939, a, L. compressa in Evans, 1939, c, and R. montana in Evans, 1937, b. Euprora mullensis was provisionally placed in the Eupelicinae, but it was stated, preceding its description, that its affinities were doubtful. The genus Euprora is now transferred to the Thymbridae close to Hackeriana Ev. The type, a female from Mullewa, was yellowish-brown in colour. Several specimens of this species occur in the British Museum material \cdot they are all pale yellowish-green and display considerable variation in regard to the shape and length of the head. The head, which is always narrowly produced, ranges from 2–4 mm. in length. The aedeagus is illustrated in Plate I., fig. 2.

Putoniessa nota sp. nov.

(Plate I., figs. 1, 4.)

Length 7 mm. Head, ventral surface black mottled with dull yellow anterior to the transverse ridge that lies between the ocelli and the antennal ridges, posterior to the ridge pale pinkish-white sparsely mottled with dark brown. Crown narrow, wider against the eyes than in the centre. Pronotum grey mottled with dark brown and grey. Scutellum reddish-brown mottled

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with black. Tegmen greyish-hyaline mottled with brown; veins pink with white and brown bars and a series of evenly spaced white spots against the costal border. Thorax, ventral surface marked with a pattern of light and dark brown. Male Genitalia, pygophore more or less rectangular with an upturned apical process. Aedeagus as in Plate I., fig. 4. Type $\vec{\sigma}$ from Dedari.

Hackeriana translucens sp. nov.

(Plate T., fig. 3.)

Length 7 mm. Head, ventral surface greenish-yellow, eyes red. Ocelli marginal, closer to the narrow apex of the head than to the eyes on each side. Crown pale greenish-yellow with faint oval white markings, a central triangular area, flat. laterally declivous. Pronotum and Scutellum concolorous with the crown. Tegmen, colourless-hyaline, veins green. Thorax and Abdomen, ventral surface yellow. Male Genitalia, parametes spanner-shaped, pygophores long and narrow, aedeagus as in Plate I., fig. 3. Type \mathcal{J} from Bur racoppin, 1/36.

Rhotidoides dongarrensis sp. nov.

(Plate I., figs. 5, 6.)

Length 7 mm. Head, ventral surface, ante-dypeus, lora and maxillary plates marked with a pattern of pale brown, dark brown, and black : frontoclypeus and vertex, yellowish-white ; eyes concolorous with the maxillary plates. Crown slightly wider against the eyes than in the centre, marked with a pattern of pale and dark brown. Pronotum, anterior margin in front of the eyes, flat, followed by a narrow declivous area, the remainder and greater part. flat, brownish-grey with dark brown markings. Scatellum pale brown. Tegmen hyaline-colourless, evenly mottled with dull greyish-brown. Thorax, ventral surface with light and dark brown markings. Legs, fore tibia pale brown with dark brown markings, lund tibia pale brown, the bases of the spines brown. Abdomen, ventral surface, marked with light and lacking processes, aedeagus and paramere as in Plate I., figs. 5 and 6. Type $\vec{\sigma}$ from Dongarra, 9/35.

NEWMANIANA gen. nov.

The ante-clypeus is flat, and the fronto-clypeus eonvex anteriorly and depressed medially, slightly anterior to the apex of the head. The antennal depressions are deep and continue anteriorly to the edge of the maxillary plates. The frontal sutures diverge posteriorly and terminate at the ocelli, which are not visible either in ventral or dorsal aspect. The apical margin of the head is more or less vertical and narrows medially. The crown is flat and anteriorly produced and the eyes are large. The pronotum is slightly transversely couvex and the hind margin almost straight. The sentellum is large and equal in length to the combined length of the crown and pronotum. The tegmina have moderately wide appendices and the venation and the armature of the hind tibiae are typical of the family. This genus is close to *Hackerianu* Ev. and *Euprora* Ev.

Newmaniana viridis sp. nov. (Genotype).

(Plate I., figs. 7-9.)

Length 7 mm. Head, ventral surface pale yellowish-green, posteriorly red, medially pink; eyes red, crown pinkish-green. Pronotum and Scutellum yellowish-green. Tegmen pale hyaline-green, veins pale green. Male Genitalia with wide pygophores lacking processes; aedeagus and parameres as in Plate 1. figs. 7 and 8. Type $\vec{\sigma}$ from Dongarra, 9/35.

MACROPSIDAE.

Four representatives of this family have been described previously from Western Australia. These are *Stenoscopus drummondi*^{*} Ev., *Macropsis* occidentalis^{*} Ev., *M. luteus* Ev., and *Oncopsis scopulus*^{*} Ev. (1936). All the new species described below, with one exception, have been placed in the genera *Macropsis* Lewis and *Oncopsis* Burm. according to whether the striations on the pronotum are oblique or transverse.

It is, however, appreciated that they may not all be congeneric with the genotypes of the two genera, but the differentiation of further genera is inadvisable until more material is available for study.

STENOPSOIDES gen. nov.

The head is slightly longer than wide and transversely convex, a crown is not developed. The pronotum which is enormously anteriorly produced, and which from below appears to be directly continuous with the face, has a median ventral carina. The hind margin of the pronotum is emarginate and the sentellinn is large. The tegmina are apically acute and have appendices that continue around their apices as far as the costal borders. The hind wings are fully developed.

Stenopsoides turneri sp. nov. (Genotype).

(Plate 11., figs. 4-6.)

Length 7 mm. Head, ventral surface yellow with brown punctures, eyes red. Pronotion, "ventral" and dorsal surfaces yellowish-brown with brown punctures; sides and apex, dark brown. Scattellum yellow. Tegmen palo hyaline-yellow. Thorax and Abdomen, ventral surface yellow. Type \Im from Dedari, 1/36.

Macropsis flexus sp. nov.

(Plate 11., fig. 14.)

Length 3.5 mm. Head buff with minute pale brown punctures, eyes reddish-brown, ocelli black : muscle impressions greenish-yellow. Crown visible from above as a narrow band of even width. Pronotum concolorous with the head, slightly declivous but not humped. Scatellum concolorous with the pronotum. Tegmen coloudess-hyaline, veins brown with white bars. Therae, ventral surface pale brownish-yellow, bases of all the spines on the hind tibia black. Abdomen, ventral surface brown. Type \Im from Dongarra, 10–35.

Macropsis eburneus sp. nov.

(Plate 11., fig. 9.)

Length 4.5 mm. Head ivory with brown punctures, fronto-clypeus medially brown with dense dark brown punctures ; muscle impressions smooth, yellowish-brown. Crown visible only narrowly against the eyes. Pronotum anteriorly cream, with dense brown anteriorly-directed striations, steeply declivous, posteriorly grey with scattered brown punctures. Scattellum orange-brown with black punctures. Tegmen hyaline with scattered small brown spots, mostly on and along the sides of the veins. Thorax, ventral surface black, edged with brown. Legs cream with brown markings. Ab_{\uparrow} domen, ventral surface black, the hind margin of each segment cream. Type φ from Dedari, 1/36.

J. W. EVANS.

Macropsis citrinus sp. nov.

Length 4 mm. Head, Pronotum, and Scutellum, bright orange. Tegmen narrow apically, colourless-hyaline, veins pale brown. Thorax, ventral surface black. Logs orango, spurs on the hind tibia black. Abdomen, ventral surface black. Type \Im from Dedari, 1/36.

Macropsis declivus sp. nov.

(Plate 11., fig. 10.)

Length 3.5 mm. Head, anterior to the ocelli orange-yellow with reddishbrown punctures, muscle impressions pale orange; posterior to the ocelli medially grey, laterally pale pinkish-white with brown punctures; eyes dark reddish-brown. Pronotum, anterior third steeply doclivous and more or less at right angles to the remainder, which is flat, antero-laterally orange, without punctures, the remainder greyish-brown with dense brown punctures. Seutellum orange-brown with sparse brown punctures. Tegmen whitishhyalino with large round brown spots lying principally on tho sides of the voins; veins pale brown. Thorax, vontral surface black. Abdomen, ventral surface orange-brown. Type \Im from Dedari, 1/36.

Macropsis flavomaculatus sp. nov.

(Plate II., fig. 7.)

Length 4 mm. Head apricot mottled with whitish-yellow, eyes dark brown. Pronotom anteriorly declivous though not so stoep as in *M. deelirus*, greyish-white with apricot punctures. Scatellum concolorous with the pronotum, with sparse orange-brown punctures. Tegmen colourless-hyaline mottled with pale coffee-brown ; veins pale brown with white bars. Thorax and Abdomen, ventral surface and legs, pale orange-yellow. Type \Im from Dedari, 1/36.

Oncopsis aeneus sp. nov.

(Plate 11., fig. 8.)

Length 4 mm. Head, ventral surface sordid yellow, eyes red. Crown narrow, visible only against the eyes on each side. Pronotum golden-brown. Scutellum yellowish-brown. Tegmen bronzy-hyaline with a longitudinal white streak lying along the first cubital vein proximally. Thorax, ventral surface black. Abdomen, ventral surface yellowish-brown. Type \mathcal{J} from Yanchep, 11/38.

Oncopsis gibbus sp. nov.

(Plate II., fig. 11.)

Length 3.8 mm. Head brownish-yellow with evenly distributed black punctures, muscle impressions yellow, eyes reddish-brown. Vertex medially dark brown. Crown only visible narrowly against the eyes on each side. *Pronotum* greyish-brown with evenly distributed black punctures, declivous anteriorly and slightly humped. Scattellum deep buff with scattered brown spots, anterior lateral angles yellow. Tegmen whitish-hyaline evenly mottled with dull brown, veins pink. Thorax, ventral surface black. Abdomen, ventral surface black, hind margin of every segment yellowish-white. Type φ from Yanchep, 12/35.

Oncopsis fuscopunctatus sp. nov.

(Plate 11., fig. 13.)

Length 4 mm. Head pale brownish-yellow, eyes brown. Crown narrowly visible against the eyes on each side. Pronotum slightly declivous anteriorly, ochreous-brown with brown punctures. Scutellum orange-brown with a few scattered brown spots. Tegmen pale brownish-hyaline partially suffused with brown. Thorax and Abdomen, ventral surface black; legs yellow. Type δ^{3} from Dongarra, 9/35.

Oncopsis bicoloratus sp. nov.

(Plate II., fig. 12.)

Length 3.5 mm. Head yellow with dark brown punctures, muscle impressions on fronto-clypeus black. Crown narrowly visible against the eyes on each side. Pronotum and Scutellum yellow with sparse brown punctures. Tegmen pale hyaline brown irregularly mottled with brown; veins brown. Thorax and Abdomen, ventral surface black. Legs marked with a black and pale brown pattern. Type \mathcal{J}^{Λ} from Yanchep, 11/35.

Oncopsis luteus sp. nov.

Length 4.8 mm. Head yellow, eyes dark red, ocelli black. Crown visible narrowly against the eyes. Pronotum greenish-yellow, declivous. Scutellum yellow. Tegmen pale hyaline-yellow with a dark brown spot at the apex of the elaval suture, veins yellow, venation similar to that of O. fuscopunctatus. Theorem and Abdomen, ventral surface yellow, the bases of the largest spines on the hind tibia black. Type \Im from Dongarra, 10/35.

TARTESSIDAE.

The following species are known from Western Australia :—*Tartessus spinosus** Ev., *Tartessus fulvus* (Walk.), *Tartessoides griseus** Ev., and *Tartessella attenuata** Ev. (Evans, 1937b).

Tartessus fumus sp. nov.

(Plate 1., fig. 18.)

Length 6.5 mm. Head, ventral surface yellow, eyes brown. Crown yellow consisting in part of the fronto-clypeus. Pronotum and Scutellum yellow. Tegmen pale hyaline-brown, apically smoky-brown, veins light and dark brown, appendix very wide apically. Thorax and Abdomen, ventral surface yellow. Male Genitalia, pygophores with strong processes, aedeagus as in Plate I., fig. 17. Type σ from Mundaring Weir, 2/36.

Tartessus mundarensis sp. nov.

(Plate 1., fig. 19.)

Length 5 mm. Head, ventral surface, fronto-clypeus anteriorly faintly suffused with brown, sutures brown; eyes black. Crown, fronto-clypeus yellow, vertex pale whitish-brown. Pronotum concolorous with the vertex. Scutellum anteriorly pale whitish-brown, apically lemon-yellow. Tegmen pale hyaline-brown, apically smoky-brown; veins dark brown. Thorax and Abdomen, ventral surface black, legs yellow, bases of the spines on the hind tibia black. Male Genitalia, aedeagus as in Plate I., fig. 18. Type d from Mundaring Weir, 2/36.

Tartessus rugosus sp. nov.

(Plate I., fig. 20.)

Length 7.5 mm. Head pale brownish-yellow; fronto-clypeus anterior to the antennae, with brown transverse muscle impressions; posterior to the antennae, and the vertex, rugose mottled with pale and dark brown; eyes dark brown. Crown, consisting entirely of the vertex, pitted with light and dark brown markings. Pronotum and Scutellum pale brown with dark brown markings. Tegmen pale hyaline-brown, veins dark brown. Abdomen, ventral surface marked with a pattern of light and dark brown and black. Hind tibia pale brown, bases of the spines dark brown. Male Genitalia, aedeagus as in Plate 1., fig. 19. Type \mathcal{J} from Yanchep, 11/35.

Tartessus flavus sp. nov.

(Plate 1., fig. 21.)

Length 6 mm. Head, ventral surface pale apricot, ocelli red, eyes dark brown. Crown pale apricot consisting entirely of the vertex. Pronotum and Scutellum concolorous with the erown. Tegmen, hyaline-apricot. Thorax and Abdomen, ventral surface, and legs, apricot, bases of the spines, dark brown. Male Genitalia, aedeagus as in Plate 1., fig. 20. Type \mathcal{J} from Yanchep, 12/35.

Tartessus rubrivenosus sp. nov.

(Plate I., fig. 22.)

Length 6 mm. Head, ventral surface, ante-clypeus, lora and maxillary plates brown, sparsely mottled with black, transverse muscle impressions black; vertex, between the eyes on each side, brown, densely mottled with black. Crown rugose, pale brown, the fronto-elypeus visible as a narrow anterior border; eyes dark brown. Pronotum antero-laterally smooth, yellowish-brown; medially greyish-brown with transverse striations. Scutellum marked with a pattern of light and dark brown. Tegmen hyaline-brown, apical cells partially suffused with smoky-brown; veins pink with dark brown bars. Thorax, ventral surface with light brown and black markings. Legs, fore and middle tibiae reddish-brown with black markings, hind tibia pale brown, bases of the spines black. Male Genitalia, aedeagus as in Plate I., fig. 21. Type \mathcal{J}^{4} from Dedari, 1/36.

Tartessus latus sp. nov.

(Plate I., fig. 23.)

Length 6 mm. Head, ventral surface, fronto-clypeus darker in colour than the rest of the face with a transverse dark brown bar between the ocelli and the antennae; eyes black. Crown consisting entirely of the vertex, wider against the eyes than in the centre, rugose. Pronotum pale brown. Scutellum dark brown with very dark brown muscle impressions. Tegmen pale hyaline-brown, veins brown. Thorax and Abdomen, ventral surface, and legs pale brown. Male Genitalia, aedeagus as in Plate 1., fig. 22. Type \mathcal{S} from Dedari, 1–36.

NIRVANIIDAE.

The species described below is the first representative of this Indo-Malayan group of leaf-hoppers to be described from Western Australia.

OCCINIRVANA gen. nov.

The head is produced and spatnlate, ventrally concave and dorsally convex. The ante-and fronto-clypeus are flat and bordered laterally with deep depressions. The antennae, which are very long, are inserted close to the anterior apical border of the head. The sides of the head on each side are emarginate above the antennae and below the ocelli, and the ocelli are close to the sides of the crown and nearer to the apex than to the eyes. The coronal suture is long, and the greater part of the crown consists of the vertex. The pronotum is collar-like and parallel-sided and in the tegmen M_{1+2} appears to be more than a mere cross-vein. The hind tibiae have a row of evenly-spaced short strong spines set on enlarged bases, a row of long strong spines, another of short spines and one of hair-like spines.

Occinirvana eborea sp. nov. (Genotype).

(Plate II., figs. 1-3.)

Length 6 mm. Head, ventral surface ivory, lora and ante-clypeus brownish-grey, eyes black. Crown pale ivory with a median longitudinal apricot band and two narrow sinuate lateral bands; ocelli red. Pronotum ivory with a median apricot band and apricot mottlings antero-laterally. Scutellum ivory with apricot muscle impressions and a faint broad median apricot band. Tegmen pale hyaline-brown but for the clavus which is white ; apically brown, and with a brown area at the fork of Cu₁. Thorax, ventral surface apricot and ivory. Abdomen, ventral surface ivory; last segment medially emarginate; ovipositor sheath with proximal brown and apical black spines. Type \Im from Perth, 3/36, on Casuarina sp.

STENOCOTIDAE.

Stenocotis depressa Walk, and Smicrocotis solomoni* Ev. are the sole representatives of this family so far recorded from Western Australia. (Evans, 1937, d.)

LEDRIDAE.

The following have been recorded from Western Australia : sub-family Ledrinae, Platyledra monstrosa* Ev. Sub-family Cephalelinae, Anacephaleus subreticulatus (Kirk.), A. minutus Ev., A. latus* Ev., Paradorydium michaelseni* Jac. (probably belongs to Anacephaleus Ev.), Notocephalius hartmeyeri* Jac., Procephaleus bulbosa* Ev., Cephalelus punctatus* Ev. Jacobi's species were described in 1909, Kirkaldy's in 1906 and the remainder in Evans, 1937, a, and 1939, e.

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Plate I.

Figure 74

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1. Putoniessa nota, head, ventral surface.

2. Euprora mullensis, aedeagus.

3. Hackeriana transluceus, aedeagus.

4. Putoniessa nota, acdeagus. • •

Rhotidoides dongarrensis, aedeagus. õ., 9.4

Rhotidoides dongavrensis, paramere. 6.

7. Newmaniana viridis, paramere.

S. Newmaniana viridis, aedeagus.

9, Newmaniana viridis, head, ventral surface. +1

10, Ipo speciosa, sub-genital plate and paramere. ,,

11. Ipo speciosa, aedeagus. ,,

12. Anipo flavens, aedeagus. 9.4

13. Ipoella fulra, aedeagus. ...

Anipo fusca, aedeagus. 14. ,.

15. Anipo darwini, aedeagus. 99

16. Ipoides fasciata, aedeagus. ...

17. Stenipo grisea, sub-genital plate and paramere. • •

18. Tartessus famus, aedeagus. ...

Tartessus mundarrensis, aedeagus. Tartessus rugosus, aedeagus. 19, 4.5

20.••

 21° Tartessus flucus, aedeagus. ••

22. Tartessus rubricenosus, aedeagus. ...

23. Tartessus latus, aedeagus. ...

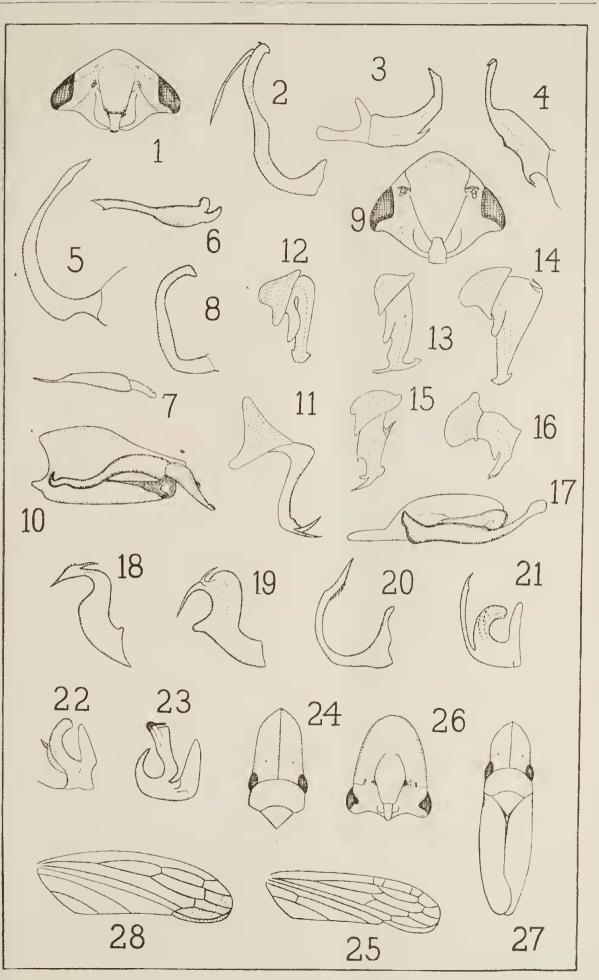
Platyscopus badius, head and thorax, dorsal surface. Platyscopus badius, tegmen. 24. 79

25. **9** 7

26. Platyscopus coloratus, head, ventral view. ,,

27. Platyscopus coloratus. 9.9

28.Eurinoscopus translucidus, tegmen. 12



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Plate II.

Figure

1.

- Occinircana eborea, head ventral surface. 2.Occinirvana eborea, head and pronotum, dorsal surface. ,,
- 3. Occinirrana eborea, tegmen. ,,
- Stenopsoides turneri, head and pronotum, ventral surface. 4. ,,
- 5.Stenopsoides turneri. ,,
- 6. Stenopsoides turneri, tegmen. ,,
- 7. Macropsis flavomacucatas, head and pronotum, dorsal surface. ,,
- 8. Oncopsis aeneus, head and pronotum, dorsal surface. ,,
- 9. Macropsis eburneus, head and pronotum, dorsal surface. ,,
- 10. Macropsis declivus, head and pronotum, dorsal surface. ,,,
- Oncopsis gibbus, tegmen. 11. ,,
- Oncopsis hicoloratus, tegmen. 12. ,,
- 13. Oncopsis fuscopunctatus, tegmen. ,,
- 14. Macropsis flexus, tegmen. ,,
- 15. ,,
- 16. ,,,
- Eusceloscopus yanchepensis, male genitalia. Eusceloscopus yanchepensis, tegmen. Eusceloscopus yanchepensis, head and thorax, dorsal surface. 17. ,,
- 18. Occiptanocephalus ravus. ,,
- 19. Eusceloscopus pallidus, tegmen. ,,
- Deltocephalus decoloratus, head and thorax, dorsal surface. Deltocephalus dedarensis, head and thorax, dorsal surface. 20.,,
- 21. ,,
- 22. Deltocephalus dedarensis, tegmen. 22

TOTAL ALTS SCIENCE

23.Deltocephalus pullatus, tegmen. 99

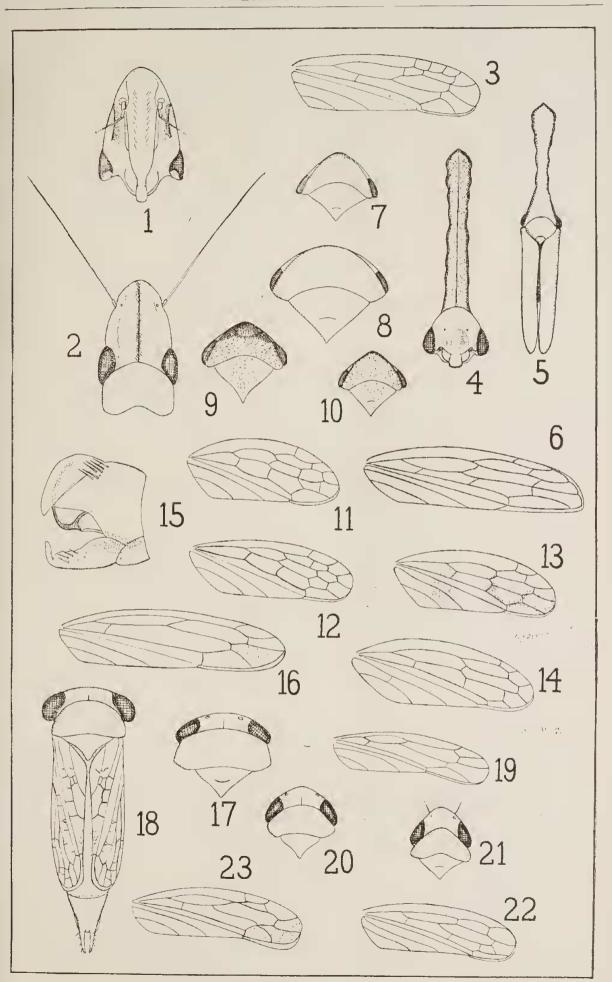


Plate III.

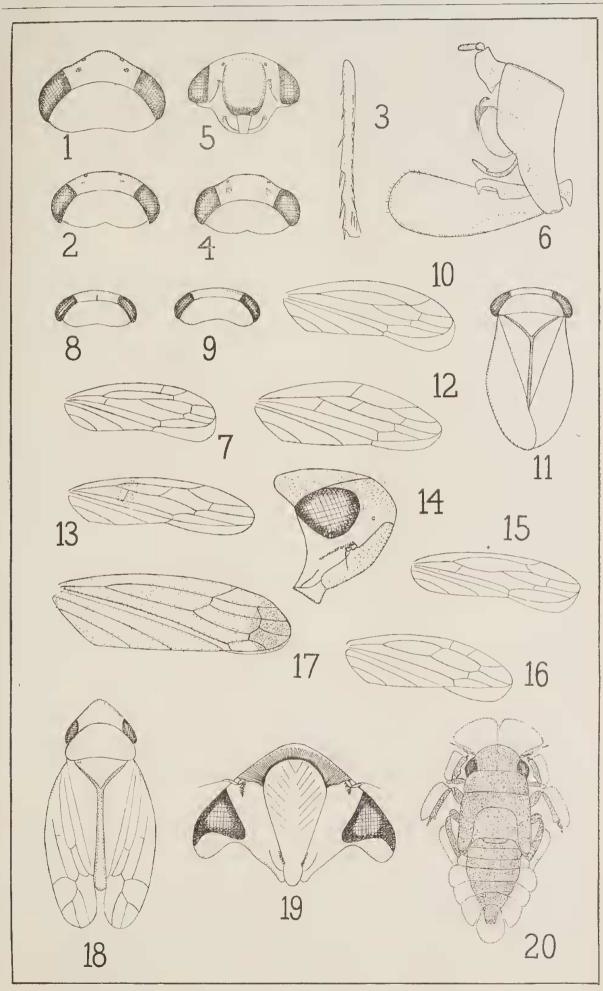
Figure

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99

- 1.
- Tumocerus grandis, head and pronotum, dorsal surface. Tumocerus meredinensis, head and pronotum, dorsal surface. 2. ,,
 - 3. Tumocerus meredinensis, hind tibia.
- 4. Tumocerus varius, head and pronotum, dorsal surface. 29
- 5. Tumocerus varius, head, ventral surface. ,,
- 6. Tumocerus varius, male genitalia. 99
- Tumocerus varius, tegmen. 7. ,,
- Idiocerus candidus. head and pronotum, dorsal surface. 8. ,,,
- 9. Idiocerus fucatus, head and pronotum, dorsal surface. 22
- Idiocerus fucatus, tegmen. Idiocerus viridiceps. 10. ,,,
- 11. ÷ •
- Idiocerus rubens, tegmen. 12. ,,
- Gnatia angustata, tegmen. 13. **,**,
- Gnatia angustata, head and pronotum, lateral aspect. 14. ,,
- 15. Tumocerus glaucus, tegmen. 97
- 16. Idiocerus fucatus, tegmen. 27
- 17. Austroagalloides maculata, tegmen. **
 - Aneono venusta. 18.
- 19.Aneono venusta, head, ventral surface. ,,
- 20.Aneono sp., nymph. 97

THE CARL ME L. OF WARDEN



NEW LEAF-HOPPERS (HOMOPTERA, JASSOIDEA) FROM WESTERN AUSTRALIA.